

ABSTRACT

An apparatus for detecting the authenticity of a container sealed with a cap (or other closure) which automatically disables itself when the cap is first removed. A radio frequency identification (RFID) tag includes a substrate, a radio frequency transceiver circuit mounted upon the substrate and connected to an antenna having a fixed length that is also mounted upon the substrate, and a protrusion affixed to or a slot in the substrate. A cap for a container includes the RFID tag mounted on an inner surface adjacent to the closed end. When mounted on the container, the cap mates with a ratchet wheel connected to the container that engages the protrusion or slot such that removing the cap from the container will cause the substrate to fracture and thereby cause the RFID tag to become permanently disabled.